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(54) Title: MONOCYCLOPENTADIENYL COMPLEXES

(57) **Abstract:** Monocyclopentadienyl complexes in which the cyclopentadienyl system bears at least one bridged donor and at least one aryl group and a catalyst system comprising at least one of the monocyclopentadienyl complexes, and also processes for preparing them, the use of the catalyst system for the polymerization or copolymerization of olefins and a process for preparing polyolefins by polymerization or copolymerization of olefins in the presence of the catalyst system and the preparation of the associated cyclopentadienyl system.